

FIG. 2

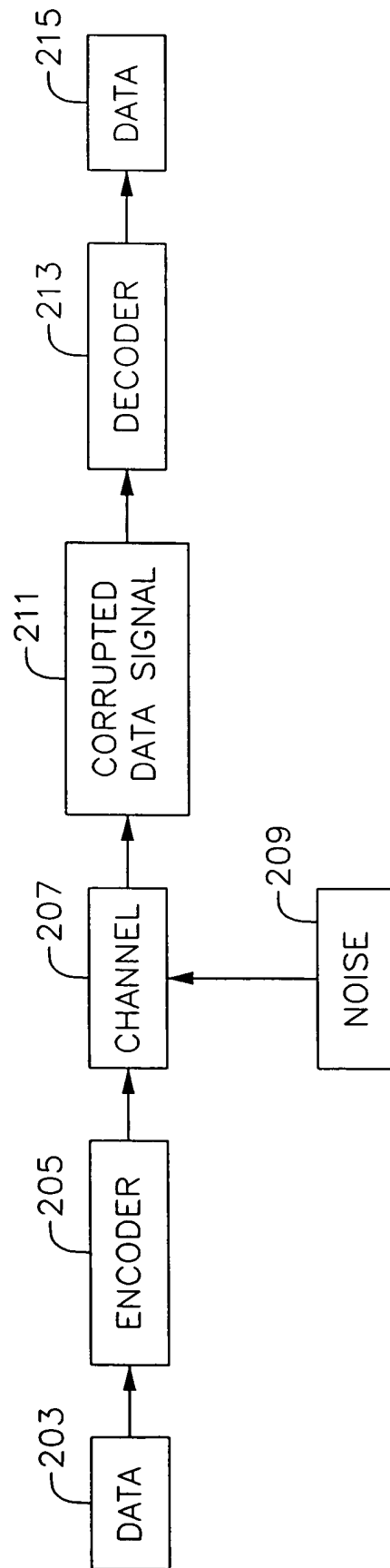


FIG. 3

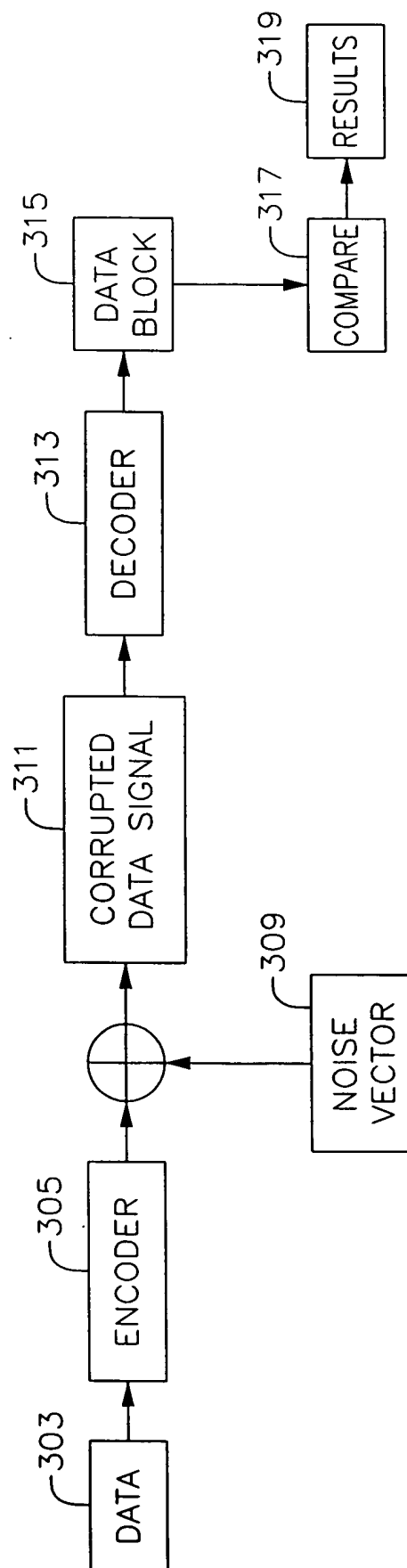
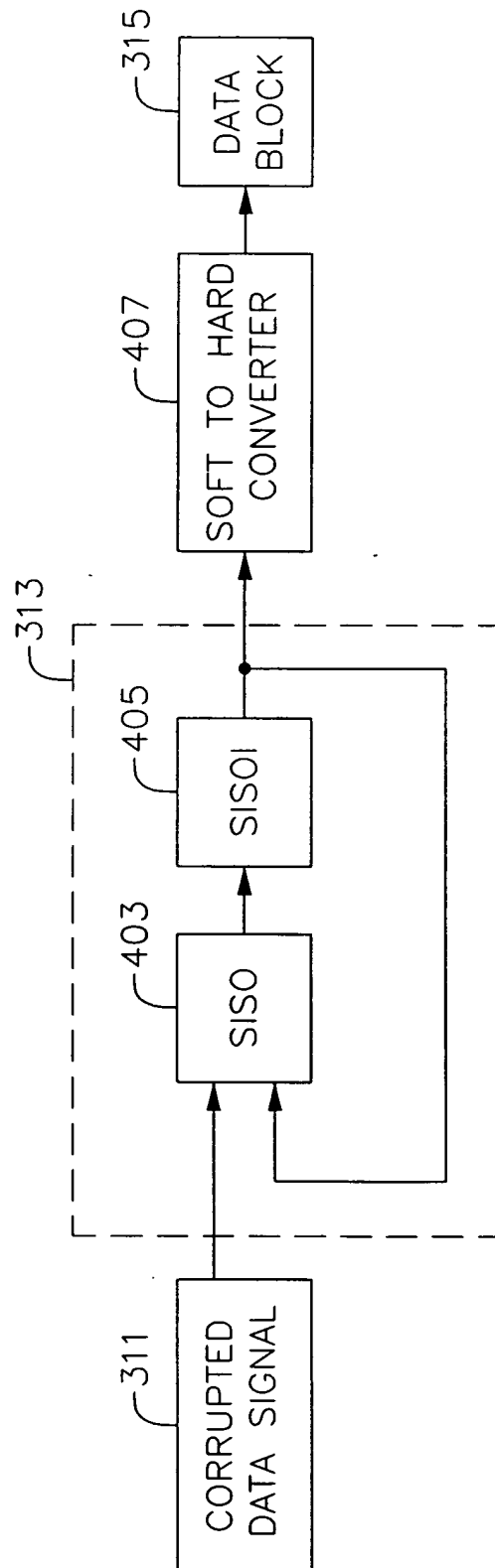


FIG. 4



**FIG. 5**

TABLE NUMBER 1

ITERATION	1	2	3	4	5	6	7	8	9	10	11	12,13,14,...
BITS ERRORS IN THE BLOCK	982	394	87	10	5	5	18	180	110	5	0	0

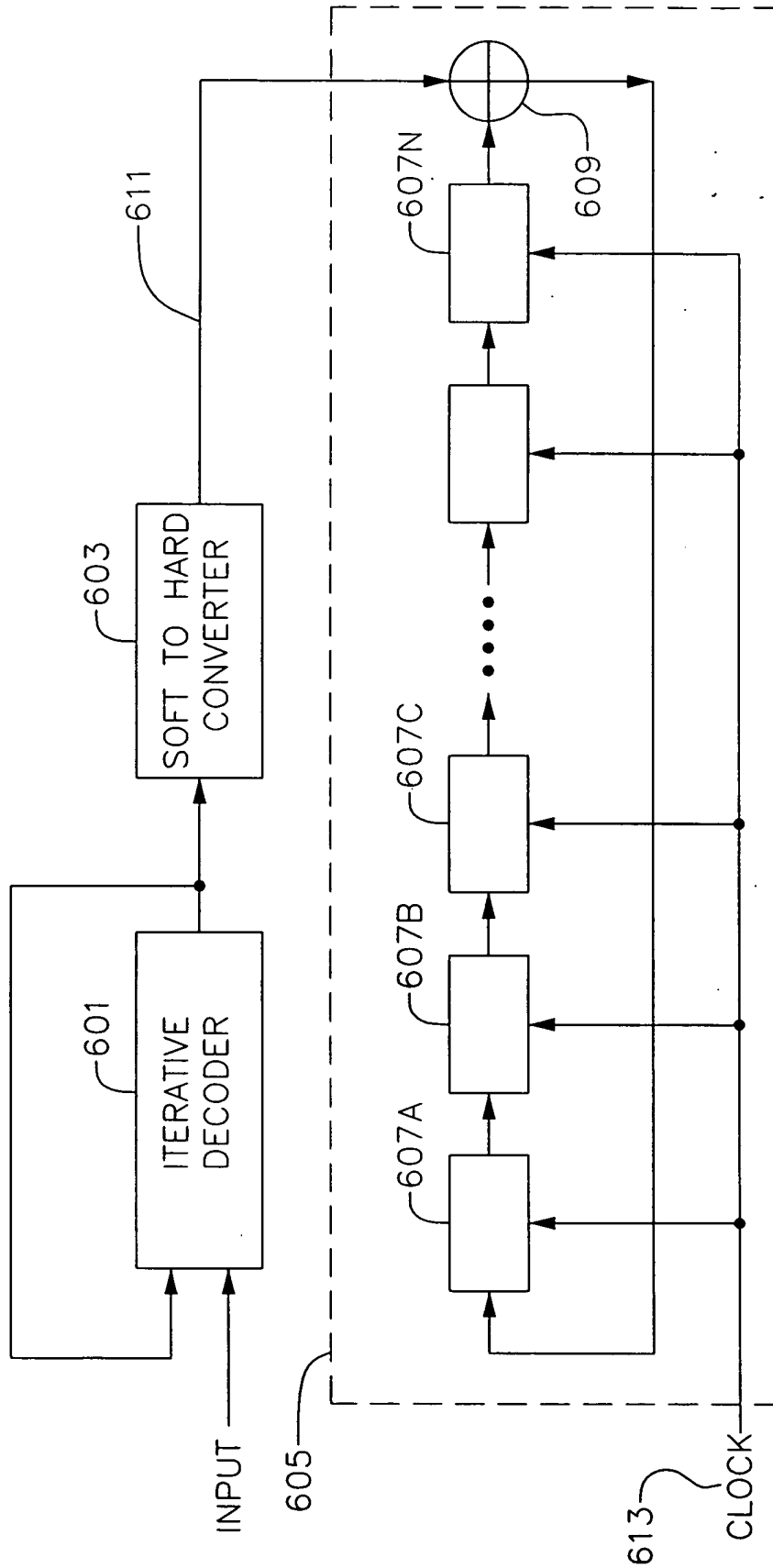
TABLE NUMBER 2

ITERATION	1	2	3	4	5,6,7,8,...
BITS ERRORS IN THE BLOCK	934	278	26	0	2

TABLE NUMBER 3

ITERATION	1	2	3	4	5	6	7	8	9	10
BITS ERRORS IN THE BLOCK	988	390	89	3	2	0	2	0	2	0

FIG. 6



**FIG. 7**

RATE 2/3 8PSK, 3.7dB 80,000 TESTED BLOCKS	DECODER WITH FIXED 8 ITERATION	DECODER USING SIGNATURE STOPPING CRITERION	
# BLOCKS WITH ERRORS	95	162	---MORE BLOCKS W/ERRORS
TOTAL BIT ERRORS	530	401	---LESS ERRORS/BLOCKS
MAXIMAL BIT ERRORS IN A BLOCK	173	6	
BIT ERROR RATE	3.235e-7	2.447e-7	
AVERAGE ITERATIONS	8	5.5	---LESS ITERATIONS
MAXIMAL ITERATION	8	9(FOUR OUT OF 80,000 BLOCKS)	---TABLE 4

TABLE 4

ITERATION	1,2,3	4	54	6	7	8	9	
	0	0.0425%	56.21%	42.23%	1.47%	0.042%	0.005%	---TABLE 5

TABLE 5

RATE 2/3 8PSK, 3.7dB 80,000 TESTED BLOCKS	DECODER WITH FIXED 8 ITERATION	DECODER USING SIGNATURE FUNCTION AS A STOP CRITERION	DECODER USING VARIANCE CRITERION TO STOP
# BLOCKS WITH ERRORS	95	162	101
TOTAL BIT ERRORS	530	401	214
MAXIMAL BIT ERRORS IN A BLOCK	173	6	5
BIT ERROR RATE	3.235e-7	2.447e-7	1.3660e-7
AVERAGE ITERATIONS	8	5.5	5.9
MAXIMAL ITERATION	8	9(FOUR OUT OF 80,000 BLOCKS)	19(1), 14(1), 12(1), 11(5), 10(8), 9(32)

TABLE 6

RATE 2/3 8PSK, 3.7dB 80,000 TESTED BLOCKS	DECODER USING CROSS-ENTROPY CRITERION	DECODER USING SIGNATURE CRITERION	DECODER USING VARIANCE CRITERION
BIT ERROR RATE	1.4830e-7	2.1665e-7	1.2145e-7
# AVERAGE ITERATIONS	5.7	5.3	5.6
MAXIMAL ITERATION	11	9	20(ONLY ONE)

TABLE 7

